



Feasibility and accuracy of a low cost, portable ECG device for measuring QTc interval in adults

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Purpose: QTc prolongation can be caused by several congenital/pathological states along with drugs used in all areas of medicine. Prolonged QTc interval has been clearly associated with fatal tachyarrhythmias, thus, the accurate measurement and monitoring of QTc is of high clinical significance.

The use of novel handheld devices in medicine is becoming increasingly popular in electrophysiology, however the efficacy of these devices varies. Though evidence supporting efficacy of AliveCor Kardia devices for QTc measurement in the paediatric population is ample, the evidence in adults predominately occurs with small sample sizes and focuses on those in sinus rhythm without conduction delay.

This study investigates whether the AliveCor Kardia6L device demonstrates non-inferiority of absolute measurement or trend of QTc interval in patients with any underlying cardiac rhythm.

Methods: A cohort of inpatients (Cardiology, RBWH) had both standard 12 lead ECGs & AliveCor Kardia6L ECGs collected within 120mins of each other. RR & QT intervals were manually measured with QTc (Bazett) calculated. Bland-Altman and Cohen's Kappa analyses were utilised to compare QTc intervals with an acceptable error of +/-20msec.

Results: Results currently under analysis.

Conclusions: Future directions for this research could include implementation in an outpatient population without supervised use of the device, and extended data collection period for longitudinal trend assessment, to further extrapolate its real-world applicability.

